CLAIMS

1. A programming method for a remote tire monitor system of a vehicle, the method comprising:

(a) applying a relatively low frequency activation signal from an exciter positioned proximate the vehicle to a coil of a tire monitor of the vehicle;

(b) at the exciter, detecting a data signal from the tire monitor, the data signal produced by modulating a relatively low frequency tire monitor signal with tire data produced in response to a measured tire parameter;

(c) at the exciter, receiving the tire data from the data signal;

(d) downloading the tire data from the exciter to a receiving unit of the vehicle.

2. The method of claim 1 further comprising;

associating the tire data with position information for the tire monitor on the vehicle; and

downloading the position information with the tire data from the exciter to the receiving unit of the vehicle.

3. The method of claim 1 further comprising;

repeating acts (a), (b) and (c) for all tires of the vehicle.

4. A programming method for a remote tire monitor system of a vehicle, the method comprising:

(a) applying a relatively low frequency activation signal from an exciter positioned proximate the vehicle to a coil of a tire monitor of the vehicle;

(b) at the exciter, detecting a data signal from the tire monitor, the data signal produced by modulating a relatively low frequency

tire monitor signal with tire data produced in response to a measured tire parameter;

(c) at the exciter, receiving the tire data from the data signal;

(d) associating the tire data with position information for the tire monitor on the vehicle; and

(e) downloading the tire data and position information from the exciter to a receiving unit of the vehicle.

5. The method of claim 4 further comprising;

repeating acts (a), (b), (c) and (d) for all tires of the vehicle.

6. The method of claim 4 wherein applying a relatively low frequency activation signal comprises applying an unmodulated signal having a frequency chosen to resonate with the coil of the tire monitor.

7. The method of claim 5 wherein applying a relatively low frequency activation signal comprises:

positioning the exciter in a substantially stationary position in a car assembly factory; and

as the vehicle including the tire monitor moves past the substantially stationary position, transmitting relatively low frequency energy from a primary coil of the exciter to the coil of the tire monitor to actuate the tire monitor with the relatively low frequency signal.

8. The method of claim 4 wherein downloading the tire data and position information comprises:

establishing a temporary connection between the exciter and the receiving unit;

conveying data including the tire data from the exciter to the receiving unit over the temporary connection; and

breaking the temporary connection.

9. The method of claim 4 wherein detecting the data signal comprises:

detecting an impedance modulation of a radiated field of a primary coil of the exciter; and

decoding data encoded as the impedance modulation by operation of the tire monitor.

10. The method of claim 4 wherein detecting the data signal comprises:

detecting at a primary coil of the exciter relatively low frequency energy radiated by the coil of the tire monitor, the coil being driven with the tire data to produce the radiated energy.

11. A tire monitor configured to be mounted on a tire of a vehicle, the tire monitor comprising:

a coil resonant with a relatively low frequency signal applied to the coil from an exciter positioned proximate the vehicle;

a detection circuit coupled to the coil and configured to produce an activation signal in response to resonance of the coil with the relatively low frequency activation signal applied to the coil;

a sensor to detect a characteristic of the tire and produce a sensor signal;

a controller responsive to the activation signal to initiate a data transmission from the tire monitor based at least in part on the sensor signal; and

a high frequency communication circuit coupled to the controller to communicate a relatively high frequency signal including data related to the characteristic of the tire provided to the high frequency communication circuit from the controller.

12. The tire monitor of claim 11 wherein the coil and the detection circuit in combination are responsive to an energy field from an adjacent primary coil to produce an induced alternating current (AC) voltage conveying the activation signal to the controller.

13. The tire monitor of claim 11 further comprising a low frequency communication circuit coupled to the controller and the coil and responsive to data from the controller to provide a signal to the coil to vary electrical properties of the coil and convey data from the tire monitor to a data reception coil of the exciter.

14. The tire monitor of claim 13 wherein the tire monitor conveys identification information for the tire monitor using one of the low frequency communication circuit and the high frequency communication circuit.

15. A tire monitor configured to be mounted on a tire of a vehicle, the tire monitor comprising:

a controller;

a sensor coupled to the controller to produce a signal based on a sensed characteristic of the tire;

a low frequency duplex communication circuit for wireless communication with an exciter positioned proximate the tire monitor, the low frequency duplex communication circuit including:

a coil,

a receiver circuit coupled to the coil and the controller and responsive to a relatively low frequency interrogation signal from the exciter to generate an activation signal for the controller, and

a transmitter circuit coupled to the controller and the coil and responsive to digital data from the controller to convey response data from the tire monitor to the exciter; and

a high frequency communication circuit coupled to the controller to communicate a relatively high frequency signal including data related to the sensed characteristic of the tire provided to the high frequency communication circuit from the controller.

16. The tire monitor of claim 15 wherein the transmitter circuit comprises one or more components responsive to the digital data from the controller to modulate impedance seen by a primary coil of the exciter.

17. The tire monitor of claim 15 wherein the coil alternates with a coil of the exciter serving as primary coil of a relatively low frequency duplex communication system, during a first time period the coil serving as a secondary coil to receive the interrogation signal, during a second time period the coil serving as the primary coil to convey the response data to the coil of the exciter.